
State Water Resources Control Board

DATE: January 12, 2022

SUBJECT: Freshwater and Estuarine Harmful Algal Bloom (FHAB) Program media fact sheet

The HAB Public Resources document contains descriptions and links of available public resources in an organized and descriptive format.



HAB Public
Resources.docx

What are cyanobacteria and how do they occur?

- Cyanobacteria are small microbes or bacteria that live in nearly every habitat on land and in the water. They have existed for billions of years as essential components of freshwater ecosystems and form the foundation of most aquatic food chains.
- When environmental conditions favor the growth of cyanobacteria and algae - warm temperatures and low or stagnant water flows, excessive nutrient inputs - they can multiply very rapidly creating nuisance blooms.
- Some cyanobacteria are capable of producing toxins that can harm pets or people that come into contact with them.
 - Not all cyanobacteria produce toxins, but those that do can cause rashes, diarrheal disease and respiratory problems.
 - Different genera of cyanobacteria can produce different toxins that pose a health risk if ingested. Children and dogs are particularly vulnerable, but adults can also experience eye irritation, allergic skin rash, mouth ulcers, vomiting, diarrhea, and cold and flu-like symptoms. Ongoing daily exposures can lead to more serious effects.
 - In California, harmful algal blooms are most common during the warm weather months between late May through October, but they can occur all year.

Additional Information on HABs:

- HABs can be a variety of colors such as green, white, red or brown. They can be more than one color and may look like thick paint floating on the water. Blooms can also appear as algal mats in rivers and streams, and also shallow areas of lakes.
 - In lakes, they usually are a mix of intense shades of green paint-like sheen on the water's surface.
 - In rivers, they look like algal mats that are attached to the bottom of the river. The algal mats can also become stranded on a shoreline. floating mats of algae-like material.

Factors contributing to blooms?

- Common factors contributing to blooms are warm weather, sunlight, large rain events and nutrient run-off.
- Current research suggests that climate change provides a catalyst for their growth.
 - Rising temperatures and changing precipitation patterns both energize HABs.
 - Warmer temperatures can favor blooms because many genera of cyanobacteria are adapted to hot conditions and they grow most at relatively high temperatures; often in excess of 25 °C where they generally outcompete eukaryotic algae.
- Rising global temperatures also change weather patterns and amounts of precipitation, which may support cyanobacteria growth.
 - The frequency of extreme rainfall events is projected to increase.
 - This will lead to larger surface and groundwater nutrient discharge events into water bodies.

What should you do if you see a bloom?

- Practice Healthy Water Habits:
 - Avoid algae and scum in the water
 - Keep an eye on children and pets (dogs); they are most susceptible for exposure
 - If in doubt, keep pets out! Do not let pets and other animals go into or drink the water, or eat scum on the shore
 - Do not drink this water or use it for cooking
 - Wash yourself, your family and your pets with CLEAN water after playing in waterbody
 - If an advisory is posted, follow all instructions on posted advisory

How to report a suspected bloom?

- Please report blooms to the CA HABs Portal using the 'Report a Bloom' feature.
 - Reports will alert the CA Water Boards and our sister agencies of the need for assistance and will expedite our efforts to track the frequency, distribution and impacts of HABs in California.

Information specific for dog owners

- Dog owners should be aware of HABs just as they are aware of other potential risks or hazards (such as poison oak, rattlesnakes, mountain lions, and so on) when outdoors with their dogs.
 - Bring bottled water with you to give to your dog to drink. When in doubt, stay out. But also don't be afraid to be outdoors. Enjoy the outdoors and just be aware.
- If your animal gets in the water with a bloom, immediately wash them with clean water and do not let them lick their fur.
- If your pet displays symptoms such as seizures, vomiting, or diarrhea after contact with surface water, contact your veterinarian right away. Animals and livestock can become very ill and die after exposure to harmful algal blooms.
 - Provide your vet with this [fact sheet](#) that assists with identification of illness due to cyanotoxins.
 - Limited funding is available to cover physical examination of ill dogs with suspected poisoning, and other lab analyses.

Information on Water Board Freshwater and Estuarine Harmful Algal Bloom Program

- While cyanobacteria have been around for millions of years, the state's program to address HABs is relatively new (within the last couple of years).
 - We are currently working on collecting data to better track the occurrence and frequency of HABs statewide.
 - Based on the limited data that we do have from voluntary reports, there was a twofold increase in reported HABs from 2016 to 2017. Most recently, reports are increasing each year with over 300 in 2020, and over 600 reports in 2021.
 - Awareness of HABs has likely also increased, so it's difficult to say with certainty that things are getting worse; however, we can say with certainty that HABs can cause adverse health effects in humans and that animal and livestock can become very ill and/or die after exposure to HABs.
 - The Water Board FHAB Program also does not have the resources to investigate every water body across the state or respond to every incident reported, so it is vital for the public to always follow Healthy Water Habits.

Where should the public go for more information on HABs in California?

- The California Water Quality Monitoring Council HAB web portal: <https://mywaterquality.ca.gov/habs/index.html> as it contains a HAB Incident Report map updated daily on all HAB information received by the Water Board and resources available for the public (i.e. fact sheets; FAQs; videos).

Terminology:

Planktonic vs. benthic bloom → planktonic tend to float/drift near the top of the water and benthic are attached to a substrate (i.e. rocks) at the bottom of the water

harmful algal bloom vs. harmful algal mats → harmful algal bloom is a general term for any type of toxin producing bloom whereas harmful algal mats are specific to benthic toxin producing cyanobacteria that can be attached in mats on substrate or dislodged and floating near shores. Often harmful algal mats refer to harmful algal blooms in streams or rivers

FHAB Program → the Water Board Freshwater and Estuarine Harmful Algal Bloom Program consisting of 2 staff at the State Water Resources Control Board and 3 staff at the Regional Water Quality Control Boards (Lahontan; Central Valley; North Coast)

Algae vs. bacteria → cyanobacteria are often referred to as an algae but are actually a bacteria. These terms to describe cyanobacteria are often used interchangeably

HAB → “harmful algal bloom” and preferred language when referring to a cyanobacteria bloom producing toxins; do not use “blue-green algae,” “green algae,” or any other nomenclature